

Claims

1. A method of detection of oxidation of carbon-containing fibers or fiber-bundles in composites using the eddy current method, wherein the fibers or fiber bundles are electrically conducting short fibers isolated by the non-conducting or semiconducting matrix such that there is no skin effect upon electrical induction, comprising applying an alternating magnetic field to the composite, the eddy current generated within the fibers causing a signal which is markedly different for oxidated fibers and non-oxidated fibers.
2. The method of claim 1, wherein the eddy current is generated in the fibers of a composite in which the ceramic matrix is present in at least a surface layer of the composite body.
3. The method of claim 1, wherein the eddy current is generated in the fibers of a composite in which the ceramic matrix in at least the surface layer comprises SiC as main constituent and Si and/or Si alloys as further phases.
4. The method of claim 1, wherein the eddy current is generated in the fibers of a composite in which the carbon-containing fibers comprise carbon fibers, graphite fibers or fibers comprising one or more of the elements Si, B, C, N, Ti or P and/or fibers coated with carbon.
5. The method of claim 1, wherein the eddy current is generated in the fibers of a composite, comprising measuring the signal in a configuration where an

induction coil (1) and a testing coil (4) are arranged on the same side of a shaped body (2) made of the composite.

- 5 6. The method of claim 1, wherein the eddy current is generated in the fibers of a composite material that can be subjected to high thermal load.